

ANTIBIOGRAM FOR SELECT BACTERIA OF PUBLIC HEALTH AND CLINICAL IMPORTANCE ISOLATED BY CLINICAL LABORATORIES IN MONTANA

2008

The efficacy of antimicrobial drug therapy is compromised by the emergence and spread of microbes that are resistant to economical, safe, and effective first-line drugs. Antimicrobial susceptibility data generated from testing isolates from individual patients can be very helpful to clinicians, infection prevention and control personnel, epidemiologists, and pharmacists if cumulative data from these tests are compiled and presented in a clear and consistent manner.

Thirty four laboratories from across Montana provided aggregate antimicrobial susceptibility data from testing performed January 1, 2008 through December 31, 2008 to the Montana Department of Public Health and Human Services (DPHHS). The data were compiled to create a statewide antibiogram using the methodology described by the Clinical and Laboratory Standards Institute entitled *"Analysis and Presentation of Cumulative Antimicrobial Susceptibility Test Data; Approved Guideline"*. Specific recommendations implemented from this document include:

- include only final, verified test results
- include only diagnostic isolates (not surveillance isolates)
- eliminate duplicates by including only the first isolate of species
- include only antimicrobial agents routinely tested (not supplemental agents)
- report percent susceptible (do not include percent intermediate).

The cumulative state antibiogram is presented to provide Montana clinicians and public health professionals with data to track antimicrobial susceptibility patterns, raise awareness of antimicrobial resistance, and to identify opportunities to reduce inappropriate antimicrobial usage. *These data are intended for surveillance purposes only and should not be used for determining antimicrobial therapy for individual patients.*

The tables below summarize the susceptibility patterns for select bacteria of public health and clinical importance.

For more information, including a complete description of the DPHHS Antimicrobial Susceptibility Testing Survey, refer to the Montana Antimicrobial Resistance Awareness Program web site at <http://mara.mt.gov> or the National Laboratory System Initiative to Integrate Clinical Laboratories Into Public Health Testing website at <http://www.dphhs.mt.gov/PHSD/Lab/natlabsys/natlaboratorysystemsindex.shtml>.




MONTANA

2008

ANTIBIOGRAM

Reported March 2010



www.mara.mt.gov

Gram Positive
2008 Isolates
All Sources

Total Isolates		penicillins		macrolide	folate inhibitor	ansamycin	lincosamide	quinolones			glycopeptide	tetracycline	oxazolidinone	streptogramin
		Ampicillin	Penicillin	Azithro- or Clarithro- or Erythromycin	Trimethoprim-sulfamethoxazole	Rifampin	Clindamycin	Moxifloxacin	Ciprofloxacin	Levofloxacin	Vancomycin	Tetracycline	Linezolid	Quinupristin-dalfopristin
Total Isolates		Percent Susceptible												
S.aureus	10383		9%	44%	99%	97%	78%	85%	70%	69%	99.9%	95%	99%	100%
Enterococcus spp.	1329	96%	97%						60%	73%	98%	23%	97%	13%
E. faecalis	2476	98%	98%						70%	63%	99%	30%	95%	6%
E. faecium	272	23%	17%							12%	55%	75%	97%	92%
S. pneumoniae	690		63%	46%	71%		67%	99%		99.8%	100%	79%	100%	

Gram Negative
2008 Isolates
All Sources

Gram Negative 2008 Isolates All Sources		penicillin	sulfa	b-lactam/ b-lactamase inhibitors		cephems							quinolones		carbapenems		monobactam	aminoglycosides			
		Ampicillin	Trimethoprim- sulfamethoxazole	Ampicillin/sulbactam	Piperacillin/tazobactam	Cefuroxime or ceftriaxone	Cefazolin	Ceftazidime	Cefotaxime	Ceftriaxone	Cephalothin	Cefoxitin	Cefepime	Ciprofloxacin	Levofloxacin	Imipenem	Meropenem	Aztreonam	Gentamicin	Tobramycin	Amikacin
	Total isolates	Percent Susceptible																			
E. coli	18929	62%	82%	70%	99%	95%	89%	98%	72%	99%	68%	97%	96%	86%	88%	99.9%	100%	99%	95%	85%	99.7%
K. pneumoniae	3426		95%	91%	99%	95%	96%	98%	97%	98%	91%	96%	99%	96%	95%	99%	99.9%	96%	97%	96%	99.7%
P. mirabilis	1050	91%	83%	91%	99.5%	98%	92%	95%	98%	98%	92%	95%	98%	88%	89%	91%	100%	97%	94%	96%	99.9%
P. aeruginosa	2246				98%			94%					89%	77%	76%	90%	90%	68%	88%	96%	96%

These data represent the results of individual cultures, not patient infections, and should not be used for the determination of therapy for individual patients.
This antibiogram reflects data submitted by 34 clinical laboratories in Montana.

Data collection: January 1 through December 31, 2008.